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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,823	08/05/2004	JONATHAN GUIDRY	19.0355	4822
23718	7590	04/17/2006		
SCHLUMBERGER OILFIELD SERVICES 200 GILLINGHAM LANE MD 200-9 SUGAR LAND, TX 77478				
			EXAMINER LO, SUZANNE	
			ART UNIT 2128	PAPER NUMBER

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/710,823	<b>Applicant(s)</b> GUIDRY ET AL.	
	<b>Examiner</b> Suzanne Lo	<b>Art Unit</b> 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08/05/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                                                         |                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                             | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/20/04 8/5/04 4/1</u> . | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

1. Claims 1-29 have been presented for examination.

**PRIORITY**

2. Acknowledgment is made of applicant's claim for priority to provisional application 60/500,189 filed on 09/04/2003.

**Information Disclosure Statement**

3. The information disclosure statements (IDS) submitted on 09/20/2004, and 08/05/2004 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the Examiner has considered the IDS' as to the merits.
4. The information disclosure statement filed 04/01/2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. A copy of foreign patent 2363215A has not been submitted and has not been considered.

**Specifications**

5. The disclosure is objected to because of the following informalities:

The specification is replete with typographical errors (e.g. "FIG. 6Band" and "drill string?" in [0044], "Ssome" in [0059], and "all that"s required" in [0067]).

Appropriate correction is required.

**Claim Rejections - 35 USC § 112**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 13 discloses wherein the information is included in the BHA source data while claim 14 discloses the method of claim 13 wherein the information is not included in the BHA source data.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 12-13, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The aforementioned claims are improper dependent claims – they are dependent on self and not further limiting.

Claims 12-15 are not treated on merit.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1, 3-7, 11, 28 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Huang et al. (U.S. Patent No. 6,873,947).**

**As per claim 1**, Huang is directed to a method for displaying a bottom-hole assembly (BHA) using vector graphics (**column 4, lines 19-22**), comprising: parsing and interpreting BHA source data to produce data packets corresponding to BHA components (**column 4, lines 28-30**); assembling the BHA using vector graphics components in a vector graphics library, wherein the vector graphics components represent the BHA components (**column 8, lines 18-38**); and displaying the BHA at a selected scale (**column 8, lines 30-38**).

**As per claim 3**, Huang is directed to the method of claim 1, wherein the displaying further displays the BHA source data (**column 8, lines 3-6**).

**As per claim 4**, Huang is directed to the method of claim 3, wherein the displayed BHA source data and the displayed BHA are in separate windows (**Figure 7, column 7, line 62 – column 8, line 6**).

**As per claim 5**, Huang is directed to the method of claim 1, wherein the parsing and the interpreting the BHA source data further produce data corresponding to well log data, and the displaying further displays the data corresponding to the well log data (**column 4, lines 31-37**).

**As per claim 6**, Huang is directed to the method of claim 5, wherein the well log data comprise at least one selected from the group consisting of a weight on bit, a rate of rotation, a rate of penetration, torques experienced by the BHA, drags experienced by the BHA, shocks experienced by the BHA, and stresses associated with the BHA components (**column 4, lines 31-37**).

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As per claim 7, Huang is directed to the method of claim 5, wherein the well log data comprise at least one selected from the group consisting of gamma ray data, nuclear magnetic resonance data, formation resistivity data, formation porosity data, and formation type data (column 11, line 61 – column 12, line 2).

As per claim 11, Huang is directed to the method of claim 1, further comprising animating the displayed BHA (column 16, lines 32-50).

As per claim 29, Huang is directed to a system for displaying a bottom-hole assembly (BHA) using vector graphics, comprising a processor and a memory, wherein the memory stores a program having instructions for steps of a method with the same limitations as claim 1 and is therefore rejected over the same art.

**Claims 12-15 are not treated on merit.**

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. Patent No. 6,873,947 B1).

As per claim 2, Huang is directed to the method of claim 1, but does not explicitly disclose wherein the BHA source data are in a WITSML data file or a text file. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the BHA source data in a text file in order to provide input data in a standard format to allow compatibility with third party application.

10. **Claims 8-10 and 16-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. Patent No. 6,873,947 B1) **in view of Landmark (PROFILE Technical Specification).**

As per claim 8, Huang is directed to the method of claim 1, but fails to disclose wherein the displaying further comprises displaying data corresponding to well log data, wherein the well log data are not included in the BHA source data. Landmark teaches displaying well log data which is not included in the BHA source data (page 1, Section "DIMS Integration", "graphical representation of important information....entered through the DIMS reporting system"). Huang and Landmark are analogous art because they are from the same field of endeavor, method for displaying a bottom-hole assembly using vector graphics. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the BHA display method of Huang with the well log display method of Landmark in order to

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allow users to view the wellbore equipment configuration at any stage in the life of the well (**Landmark, page 1, Section “DIMS Integration”**).

As per claim 9, the combination of Huang and Landmark already discloses the method of claim 8, wherein the well log data comprise at least one selected from the group consisting of a weight on bit, a rate of rotation, a rate of penetration, torques experienced by the BHA, drags experience by the BHA, shocks experienced by the BHA, and stresses associated with the BHA components (**Huang, column 4, lines 31-37**).

As per claim 10, the combination of Huang and Landmark already discloses the method of claim 8, wherein the well log data comprise at least one selected from the group consisting of gamma ray data, nuclear magnetic resonance data, formation resistivity data, formation porosity data, and formation type data (**Huang, column 11, line 61 – column 12, line 2**).

As per claim 16, Huang is directed to the method of claim 1, but fails to disclose wherein the parsing and the interpreting the BHA source data further produce data packets corresponding to a drill string that is attached to the BHA, wherein the assembling further comprises assembling the drill string using vector graphics components that represent drill string components, and wherein the displaying further displays the drill string. Landmark teaches parsing and interpreting the BHA data to produce data packets corresponding to a drill string and displaying the drill string using vector graphics (**page 2, Section “Object picking”**). Huang and Landmark are analogous art because they are from the same field of endeavor, method for displaying a bottom-hole assembly using vector graphics. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the BHA display method of Huang with the drill string analysis and display method of Landmark in order to quickly visualize current installed and historical wellbore information and downhole equipment (**Landmark, page 1, Section “Overview”**).



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As per claim 17, the combination of Huang and Landmark already discloses the method of claim 16, further comprising animating the displayed drill string and BHA (**Huang, column 16, lines 32-50**).

As per claim 18, the combination of Huang and Landmark already discloses the method of claim 17, wherein the animating is based on information related to a well trajectory or time-versus-depth data (**Huang, column 15, lines 20-39**).

As per claim 19, the combination of Huang and Landmark already discloses the method of claim 18, wherein the information is included in the BHA source data (**Huang, column 15, lines 20-27**).

As per claim 20, the combination of Huang and Landmark already discloses the method of claim 18, wherein the information is not included in the BHA source data (**Landmark, page 1, Section “DIMS Integration”, “graphical representation of important information....entered through the DIMS reporting system”**).

As per claim 21, the combination of Huang and Landmark already discloses the method of claim 20, wherein the information is streamed from a drilling operation (**Landmark, page 1, Section “DIMS Integration”, “graphical representation of important information....entered through the DIMS reporting system”**).

As per claim 22, the combination of Huang and Landmark already discloses the method of claim 18, wherein the animating further displays data related to one selected from formation data, borehole data, and BHA data (**Landmark, page 2, Section “Object picking”**).

As per claim 23, the combination of Huang and Landmark already discloses the method of claim 22, wherein the data selected from the formation data, the borehole data, and the BHA data is streamed from a drilling operation (**Landmark, page 1, Section “DIMS Integration”, “graphical representation of important information....entered through the DIMS reporting system”**).

As per claim 24, Huang is directed to the method of claim 1, but fails to explicitly disclose further comprising displaying a borehole surrounding the BHA. Landmark teaches displaying a borehole surrounding the BHA (page 1, Figure “Configurable 2D curtain plot summary wellbore schematics”). Huang and Landmark are analogous art because they are from the same field of endeavor, method for displaying a bottom-hole assembly using vector graphics. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the BHA display method of Huang with the borehole display method of Landmark in order to quickly visualize current installed and historical wellbore information and downhole equipment (Landmark, page 1, Section “Overview”).

As per claim 25, the combination of Huang and Landmark already discloses the method of claim 24, further comprising animating the displayed BHA along the borehole (Huang, column 16, lines 32-50).

As per claim 26, the combination of Huang and Landmark already discloses the method of claim 24, wherein the borehole is displayed as cylinder sections (Landmark, page 1, Figure “Configurable 2D curtain plot summary wellbore schematics”).

As per claim 27, the combination of Huang and Landmark already discloses the method of claim 26, the cylinder sections of the borehole are displayed in sequence to simulate a drilling process (Huang, column 16, lines 32-50). Displaying the cylinder sections of the borehole in sequence is inherent to animating the displayed BHA along the borehole.

As per claim 28, the combination of Huang and Landmark already discloses the method of claim 27, further comprising animating the displayed BHA to simulate the drilling process (Huang, column 16, lines 32-50).

**Conclusion**

11. The prior art made of record is not relied upon because it is cumulative to the applied rejection.

These references include:

1. U.S. Patent No. 4,794,534 issued to Millheim on 12/27/88.
2. U.S. Patent No. 6,801,197 B2 issued to Sandstrom on 10/05/04.
3. U.S. Patent No. 6,760,665 B1 issued to Francis on 07/06/04.
4. U.S. Patent No. 7,003,439 B2 issued to Aldred et al. on 02/21/06.
5. U.S. Patent Application Publication 2003/0074139 by Poedjono on 04/17/03.

12. All Claims are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suzanne Lo whose telephone number is (571)272-5876. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571)272-2297. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Suzanne Lo  
Patent Examiner  
Art Unit 2128

  
KAMINI SHAH  
SUPERVISORY PATENT EXAMINER

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